UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,750	10/23/2001	Wade C. Patterson	8213	5036

22922 7590 08/18/2006

REINHART BOERNER VAN DEUREN S.C.
ATTN: LINDA KASULKE, DOCKET COORDINATOR
1000 NORTH WATER STREET
SUITE 2100
MILWAUKEE, WI 53202

EXAMINER	
LI, SHI K	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,750	PATTERSON ET AL.	
	Examiner	Art Unit	
	Shi K. Li	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-14 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-14 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 June 2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-7 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Laverty, Jr. et al. (U.S. Patent 5,508,510).

Regarding claims 1 and 4, Laverty, Jr. et al. teaches a system which uses pulsed infrared sensor to control fluid flow. Laverty, Jr. et al. discloses in FIG. 10A infrared transmitter (XMTR) and infrared receiver (RCVR) for transmitting infrared pulses which are reflected by an object within the sensors field of view (see, e.g., col. 6, lines 63-65). Laverty, Jr. et al. teaches in FIG. 10A optional portable remote control device for range and dwell adjustments and detecting battery status of the infrared sensor. Inherently, the infrared sensor changes from normal mode, which is the detection of object for fluid control, to communication mode when the portable remote control device is activated within communication range of the infrared sensor. Laverty,

Jr. et al. teaches in col. 2, lines 51 that the communication is a two way (bidirectional) communication. Laverty, Jr. et al. teaches in col. 13, line 25-col. 14, line 52 operation instructions for using the remote control device. For example, user press TIME or RANGE function to display the current setting.

Regarding claim 3, Laverty, Jr. et al. teaches in col. 13, lines 55-64 that after entering security code, the remote unit display battery status.

Regarding claims 5-6, Laverty, Jr. et al. teaches in FIG. 10A photodiode.

Regarding claims 7-8, Laverty, Jr. et al. teaches in the abstract that the system is for activate a fluid supply control to control the supply of fluid when the presence of a person or object is detected. Laverty, Jr. et al. teaches in col. 7, lines 17-19 that the presence of a person or object is detected by reflecting ranging pulses.

Regarding claims 9-10, Laverty, Jr. et al. teaches in col. 13, lines 35-36 that when a user press TIME or RANGE function, current setting (operation status) will be displayed.

Regarding claim 11, Laverty, Jr. et al. teaches in col. 14, lines 1-52 programming flush time and range of the impulse flusher.

Regarding claim 19, Laverty, Jr. et al. teaches in FIG. 10A photodiode.

Regarding claim 20, Laverty, Jr. et al. teaches in FIG. 2 LED.

Regarding claim 22, Laverty, Jr. et al. teaches in col. 13, line 25-col. 14, line 52 operation instructions for using the remote control device to request status, set and program flushing time and sensing range.

Regarding claim 24, Laverty, Jr. et al. teaches in col. 13, lines 52-64 that entering the security code causes the remote unit search status signal and display battery status.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 4, 7-11, 13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange et al. (U.S. Patent 4,916,613) in view of Laverty, Jr. et al. (U.S. Patent 5,769,120).

Regarding claims 1 and 4, Lange et al. discloses in FIG. 1 a system wherein a fixed device 1 communicates with a transmitter and receiver unit 12. Lange et al. teaches in FIG. 1 that device 1 comprises IR transmitter 3 and IR receiver 4. Lange et al. teaches in col. 2, lines 52-60 that transmitter 3 sends pulses which are reflected by a user and detected by receiver 4. Lange et al. teaches in col. 4, lines 4-8 that a communication link can be established by an operator using transmitter and receiver unit 12. The difference between Lange et al. and the claimed invention is that Lange et al. does not teach explicitly that transmitter and receiver unit 12 is a handheld device. However, it is well known in the art that handheld device is suitable for such applications. For example, Laverty, Jr. et al. teaches in FIG. 13 a handheld remote control unit. One of ordinary skill in the art would have been motivated to combine the teaching of Laverty, Jr. et al. with the system of Lange et al. because a handheld device can be carried by an operator for interrogating rinsing systems in different rooms, e.g., in a hotel or office building environment. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a handheld remote control device for interrogating rinsing systems, as taught by Laverty, Jr. et al., in the system of Lange et al. because a handheld device can be

carried by an operator for interrogating rinsing systems in different rooms, e.g., in a hotel or office building environment.

Regarding claims 7-8, Lang et al. teaches in col. 2, lines 52-54 that the system can serve as a hand rinsing system which operates upon the receipt of reflected ranging pulses.

Regarding claim 9-10, Lange et al. teaches in col. 2, lines 3-7 that the control unit interrogates state of the battery.

Regarding claim 11, Lange et al. teaches in col. 2, line 57 that the transmitter and receiver unit is used for programming.

Regarding claim 13, Lange et al. suggests in col. 1, lines 30-35 that the transmitter sends sequence of pulses.

Regarding claim 23, Lange et al. teaches in col. 4, lines 50-51 pulse table 23 for storing different pulses, such as control pulse, detection pulse and test pulse. That is, the control pulse has different shape from the detection pulse. It is obvious to choose a control pulse with greater duration that the detection pulse as a design choice.

6. Claims 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laverty, Jr. et al. (U.S. Patent 5,508,510) in view of Foster (U.S. Patent 6,125,482).

Laverty, Jr. et al. has been discussed above in regard to claims 1, 4-7 and 19-20. The difference between Laverty, Jr. et al. and the claimed invention is that Laverty, Jr. et al. does not teach providing past operation over the communication link. Foster teaches in col. 9, lines 48-50 to transfer hand wash count data stored in EEPROM to handheld computer 119. Foster suggests in FIG. 10 to use a cable for connecting the handheld computer and the hand wash station. However, it is well known in the art that any communication link, including infrared wireless

link, can be used for such data transferring. One of ordinary skill in the art would have been motivated to combine the teaching of Foster with the modified system of Laverty, Jr. et al. because usage data provides information for scheduling other operations such as cleaning the sink and refilling soap dispenser. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the communication link in the system of Laverty, Jr. et al. for transferring past operation information, as taught by Foster, because usage data provides information for scheduling other operations such as cleaning the sink and refilling soap dispenser.

Regarding claim 21, Foster teaches in col. 7, lines 65-67 that operation range is adjusted by adjusting threshold.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laverty, Jr. et al. (U.S. Patent 5,508,510) in view of admission (admitted prior art).

Laverty, Jr. et al. has been discussed above in regard to claims 1, 4-7 and 19-20. The difference between Laverty, Jr. et al. and the claimed invention is that Laverty, Jr. et al. does not teach the repetition rate. Instance specification admits on page 4, first paragraph that IrDA compliant device emits pulse every 250 milliseconds, i.e., a repetition rate of 4 Hz. One of ordinary skill in the art would have been motivated to combine the teaching of admission with the system of Laverty, Jr. et al. because a repetition rate of 4 Hz is compliant with IrDA standard and has high compatibility with other infrared communication based products. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a repetition rate of 4 Hz, as taught by admission, in the system of Laverty, Jr. et al. because a

repetition rate of 4 Hz is compliant with IrDA standard and has high compatibility with other infrared communication based products.

Response to Arguments

8. Applicant's arguments filed 22 June 2006 have been fully considered but they are not persuasive.

The Applicant argues that Laverty et al. does not disclose transmitting a user-initiated signal. The Examiner disagrees. Laverty et al. teaches in col. 13, line 25-col. 14, line 53 operation instructions of the remote unit where keys such as security code, TIME, RANGE are pressed. It is understood that the keys are pressed by a user.

The Applicant argues that Laverty et al. does not disclose a bidirectional optical communication link. The Examiner disagrees. Laverty et al. teaches in col. 2, lines 51 "two way infrared communication link".

The Applicant argues that Laverty et al. does not indicate that impulse sensor transmits operating information to the remote control device. The Examiner disagrees. Laverty et al. teaches in col. 13, lines 35-36 that when TIME or RANGE function is pressed, current setting will be displayed. It is understood that the current setting is transmitted from the impulse device to the remote device.

The Applicant argues that the system disclosed by Lange et al. operates without intervention by an operator. The Examiner disagrees. Lange et al. teaches in col. 2, line 21 operator. Lange et al. teaches in col. 4, line 13 keyboard 17 and in col. 5 line 41-42 "the corresponding control commands are supplied through the keyboard 17". It is understood that a keyboard is used by an operator.

The Applicant argues that modifying Lange with the teachings of Laverty, Jr. et al. would render Lange et al. inoperative by removing the bidirectional transmission between the transmitter unit and the reception unit of Lange et al. However, the Examiner does not reject the claim based on such modification. Instead, the Examiner cites Laverty, Jr. et al. for the teaching of using a handheld device. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

skl
10 August 2006

Shi K. Li
Patent Examiner